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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,230	09/24/2001	Satoru Toguchi	A081-A	6511
21254	7590	10/14/2003		
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			EXAMINER YAMNITZKY, MARIE ROSE	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 10/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/961,230	<b>Applicant(s)</b> TOGUCHI ET AL.	
	<b>Examiner</b> Marie R. Yamnitzky	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☒ This action is **FINAL**.
- 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 24-34 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-13 and 24-33 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. This Office action is in response to applicants' amendment filed August 06, 2003 (Paper No. 5), which amends the specification and claims 1, 7, 24 and 27-30, adds claim 34, and provides a substitute abstract.

Claims 1-13 and 24-34 are pending.

2. The objections to the abstract and the disclosure, and the rejection under 35 U.S.C. 112, second paragraph, are overcome by applicants' amendment.

The rejection based on US 5,294,810 (Egusa et al.) is overcome by the amended language set forth in the last two lines of claim 7.

The rejection based on JP 10-102051 or US 5,858,564 (Tamura et al.) is overcome by the amended language set forth in the last three lines of claim 24. (For the record, the rejection based on US 5,858,564 should have been made under 35 U.S.C. 102(e) instead of 102(a).)

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Shi et al. (US 6,013,383).

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See the whole patent. In particular, see formulae (VI) and (VII) in column 6, see c. 6, l. 61-c. 7, l. 10 and see claims 15, 16, 23 and 24.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US 6,013,383) as applied to claims 1 and 3 above, and for the further reasons set forth below.

With respect to claim 2, the prior art compounds represented by formulae (VI) and (VII) do not include a substituent on the aryl groups corresponding to Ar<sup>1</sup> and Ar<sup>2</sup>. However, Shi teaches that the aryl groups may be substituted (e.g. see c. 5, l. 20-22). It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make compounds similar to the specific compounds disclosed by Shi with the expectation that compounds that are suggested by Shi and similar to the specific compounds would have properties similar to the specific compounds and would be suitable for use in a hole transporting and/or emitting layer of an organic EL device. One of ordinary skill in the art would have reasonably expected that substituted derivatives of formulae (VI) and (VII), having substituents as described at (d) in column 5 would be suitable for use in a hole transporting and/or emitting layer of an organic EL device.

With respect to claims 4 and 5, the prior art does not specifically limit the work function of the anode and the cathode. However, it is conventional for the cathode of an organic EL device to have a smaller work function than the anode, and it would have been within the level of ordinary skill of a worker in the art at the time of the invention to determine suitable and optimum work functions for the electrodes based on the effect that work function has on the driving characteristics of an EL device.

With respect to claim 6, the prior art does not specifically limit the thickness of the organic layer. It would have been within the level of ordinary skill of a worker in the art at the time of the invention to determine suitable and optimum thicknesses for the organic layer. As was known in the art at the time of the invention, if the layers between the electrodes are too thin, pinholes can form in the layers and, if the layers are too thick, electrical resistance can become adversely high.

7. Claims 1-6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-268284 substantially for the reasons of record in Paper No. 4.

Claim 1 has been amended in Paper No. 6 to delete the original requirement that the light emitting layer be a "red" light emitting layer. Accordingly, the first full sentence on page 6 of Paper No. 4 is not particularly relevant to present claims 1-6.

8. Applicants' arguments filed August 06, 2003 have been fully considered but they are not persuasive with respect to the rejection based on JP 9-268284.

Perylene is an aromatic compound having 20 carbon atoms. Perylene has the structure of two naphthylene groups bonded together via two direct bonds as provided by the formula set forth on the top of page 12 (paragraph [0020]) of the translation of JP '284. While JP '284 does not anticipate a perylene compound of formula C1, a perylene compound of formula C1 is within the scope of the prior art and the examiner maintains the position that the compound is suggested by the prior art.

9. Miscellaneous:

In the thirteenth line after formula C1 in claim 1, "unsubstitutedcycloalkyl" should read --unsubstituted cycloalkyl--.

10. Claims 7-13 and 24-33 are allowed.

The examiner notes that amended independent claims 7 and 24 include changes relative to the previous versions of claims 7 and 24 that are not shown in the amended claims.

Claim 7 has been amended by deleting "a substituted or unsubstituted aromatic hydrocarbon group" from the possibilities for  $R^1$  to  $R^{14}$ . This deletion is not necessary to patentably distinguish claims 7-13 over the prior art.

In claim 24, "a substituted or unsubstituted aromatic hydrocarbon group" has been deleted as shown in the amended claim and "a substituted or unsubstituted aromatic heterocyclic group" has also been deleted from the possibilities for  $R^1$  to  $R^{14}$ . Neither of these deletions is necessary to patentably distinguish claims 24-33 over the prior art.

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11. Claim 34 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 7.

When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

The negative limitations recited in claim 34 are inherent in the language of the last two lines of claim 7.

12. The issues raised in this Office action were briefly discussed with applicants' representative Phillip Miller on October 02, 2003 with a view towards a possible examiner's amendment including cancellation of claims 1-6 in order to expedite allowance of claims 7-13 and 24-33. As of October 10, 2003, no agreement had been reached.

13. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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14. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for Art Unit 1774 is (703) 872-9306 for all official faxes.  
(Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY  
October 10, 2003



**MARIE YAMNITZKY  
PRIMARY EXAMINER**

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